IN THE SPECIFICATION

The paragraph beginning at page 2, line 15 of the substitute specification has been amended as follows:

This object is achieved in accordance with the invention by a device for cross-platform and data-specific visualization of 3D data records wherein ~~the invention provides that~~ the 3D volume data are stored together with visualization software on a data carrier, and the latter is transmitted to a user for playback on any desired PC.

The paragraph beginning at page 2, line 21 of the substitute specification has been amended as follows:

Storing the 3D volume data record together with any (desired) visualization software means that 3D volume can be visualized on any PC without software additionally installed on ~~said~~ that PC. Moreover, the ~~unit~~ uniting of the data record and the visualization algorithm means ~~ensures~~ that ~~no~~ a general visualization tool ~~with the aid of which~~ that must be able to display any desired data records ~~can be displayed~~ is not involved.

The paragraph in the substitute specification beginning at page 3, line 21 has been amended as follows:

~~The single figure~~ FIG. 1 schematically illustrates the projection of a 3D volume data record onto a 2D projection ~~monitor~~.

In the substitute specification at page 3, immediately below line 22, insert the following paragraph:

FIG. 2 is a block diagram of an apparatus for producing a data carrier in accordance with the present invention.

The paragraph in the substitute specification beginning at page 3, line 24 has been amended as follows:

~~When~~ As shown in FIG. 1, when a 3D volume data record is being produced, the volume of interest is transirradiated from an optical center 1, and the points lying on the line of transirradiation are imaged in an image plane. A 3D volume data record can be calculated with the aid of an algorithm from a number of two-dimensional images produced from different optical centers 1. In the reconstruction, shown in FIG. 1 ~~the figure~~, of the 3D data record as ~~on~~ a 2D projection 2 on a monitor [[2]], the points lying on a projection ray 3 are added to the 3D volume V ~~in accordance with variable~~ dependent on different points of view, specifically the so-called visualization parameters, for example with their gray-scale values, and imaged on the 2D monitor 2 as a pixel. The setting of the visualization parameters is a particularly difficult art in this case and is mastered only by experienced radiologists, whereas normal doctors are able only with great difficulty to emphasize the structures they desire from a 3D volume data record. For example, depending on the setting of the visualization parameters, vascular ~~arborizations~~ branchings in the 3D volume V, for example, are specially emphasized, or else specific bone structures or other medical details. If these visualization parameters are recorded in common on a data record together with the visualization software respectively used and the 3D volume data by the recording radiologist, in particular burnt onto a CD, this data record can very easily be sent to a doctor or another department of a hospital where a simple PC requiring no special visualization installations of any sort, that is to say, in particular, on which there is no need to install any expensive visualization software, is sufficient for visualization. The simultaneous co-storage of

the visualization parameters as far as possible in a way such that the receiver is no longer capable of changing them has the advantage that even less experienced doctors can view on their simple PC with the best image quality precisely the structures emphasized by the radiologist.

In the substitute specification at page 4, immediately below line 19, insert the following paragraphs:

An apparatus for implementing the above-described procedure is shown in FIG. 2. A computer 4 has a processor 5 therein, in communication with a data memory six and visualization software 7. The processor 5 controls the operation of a data carrier generator 8, such as a CD burner. Data representing a medical image, as described above, can be entered into the computer 4 via a user interface 9 in communication with the processor 5, or directly via a data input port 10. The image data are then stored in the data memory 6.

Also via the user interface 9, an operator, such as an experienced radiologist, can cause the stored image to be displayed at a monitor 12 using the visualization software 7, and, via the user interface 9, the radiologist can enter specific instructions regarding the execution of the visualization software 7 so that the medical image is displayed in a particular manner, such as to emphasize specific structures for a particular diagnosis or surgical procedure. The image data, together with the visualization software needed for creating the aforementioned visual display of the image, including any special instructions that may have been entered by the operator, are then united in a data carrier 11 that is generated by the data carrier generator 8. The generated data carrier 11 then can be given to a physician, as described below, for performing a particular procedure, and the physician is then

able to visualize the medical image in accordance with the instructions that have been entered by the experienced radiologist, without the physician having to make decisions as to the manner of displaying or visualizing the medical image.